

the
LYNX

September 2011

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IEEE/Orange County Website:
www.ieee.org/ocs

With thanks to our sponsors:



The Chair's Corner:

by Alvin Joseph

Greetings and hope you all had a wonderful summer time!

This summer I ended up flying a lot both for vacation and business. Most of all, I was thrilled by the ride on Airbus's A380, the world's biggest passenger plane, The Airbus A380 is a double-deck, wide-body, four-engine jet airliner. It provides seating for 525 people in a typical three-class configuration or up to 853 people in all-economy class configurations. The A380-800 has a design range of 9,400 mi. In addition to offering superior levels of passenger comfort, the A380 provides the lowest fuel burn per seat – which allows airlines to substantially reduce CO2 emissions for a healthier environment while achieving profitable, sustainable growth for decades to come. It also is the quietest long-haul aircraft flying today, generating 50 per cent less noise on departure than the nearest competitor – as well as three to four times lower noise when landing, all while carrying 40 per cent more passengers. Inside the cabin, travellers have applauded the A380 for its extremely quiet cabin, which on average has half the sound energy of other aircraft. This is a key factor in stress-free flights, allowing passengers to arrive at their destination feeling refreshed. Amazing to see the power of technology at work!

After the summer break, Here is the September Lynx OC section newsletter with updates on IEEE Orange County section activities and upcoming event information.

As you can will see, we have a good lineup of upcoming events. Please chose the events that are of interest to you and sign up soon. Also, let us know areas that you'd like to see more events on. This will help shape up our future programs.

As always, feel free to drop me a line at alvin@ieee.org. I'd love to hear from you on how the IEEE Orange County section can serve you better.

Alvin Joseph
Chairman, IEEE Orange County Section
www.ieee.org/ocs

IEEE Electron Devices Society and the IEEE Reliability Society to Sponsor Reliability Physics Conference

The IEEE EDS and Reliability societies are will co-sponsor the conference entitled "2012 IEEE International Reliability Physics Symposium (IRPS)". This conference will be held April 15-19, 2012 in Garden Grove, California, USA.

For further information, please contact,

David Barber
PO Box 2097

Banner Elk NC 28604 USA

Ph : +1 828 898 7001

Fax: +1 828 898 6379

dbarbsta@aol.com

or Conference Services Dept., at
IEEE Operations Center at
+1 732 562 3878

The IEEE Orange County Upcoming Events

Sept 6

Electric Vehicles (EV's) and Power Grids; AC Propulsion's V2G (Vehicle to Grid) Experience: IEEE PES L.A. Metro (LAC) Chapter, Sept. 6, 2011 Meeting

Luminarias Restaurant

3500 Ramona Blvd. Monterey Park, CA

Charlie Vartanian: (626) 818-5230

Sept 12

Biologically-inspired and Nano-scale Communication and Networking

Prof. Falko Dressler, University of
Innsbruck, Austria

The Doubletree Club Orange County

Airport

7 Hutton Centre Drive

Santa Ana, CA, 92707

RSVP: <http://oc-comsig.eventbrite.com/>

Sept 20

IEEE Components, Packaging and Manufacturing Technology Society Orange County Chapter: Silver Flip-chip Interconnect Technology

Prof. Chin C. Lee

Broadcom Corporation

5300 California Ave., Irvine, CA

RSVP to Mehdi Saeidi at saeidi@ieee.org

Sept 22

ECS Technology Breakfast presentation

7:30AM

Holiday Inn Hotel & Suites, 2932 E.

Nutwood Ave, Fullerton, CA 92831

Sept 28

ISA "Members Only" Tour of NASA's Jet Propulsion Laboratory

Deadline to RSVP: Sept 7

RSVP and Info: JPLtour@isala.org

Oct 10 - 12

2011 IEEE Symposium on Product Compliance Engineering

San Diego, California,

www.psessymposium.org

Oct 30 - Nov 1

IEEE Global Humanitarian Technology Conference

Seattle, Washington

www.ieeeeghtc.org

Nov 2 - 4

Internation Games Innovation Conference

Chapman University, Orange, California

<http://ice-gic.ieee-cesoc.org/>

Nov 2

IEEE Student Design Contest

Radisson Hotel Newport Beach, CA

www.socconference.com/students.htm

Nov 3

IEEE Job Fair

Nov 2-4

The Third IEEE International Games Innovation Conference

One University Drive, Chapman University, Orange, CA

If you'd like your event to be included, please email details to me@sharonforsberg.com

IEEE Components, Packaging and Manufacturing Technology (CPMT) Society – Orange County Chapter

The IEEE has recently approved the formation of a new Components, Packaging and Manufacturing Technology (CPMT) Society (www.cpmt.org) Chapter, under the Orange County Section. A joint petition signed by 15 IEEE CPMT members, working for area companies and institutions such as Broadcom, Conexant, Henkel, International Rectifier, K & S, Pacrim Technologies, RWF Consulting, Technic and UCI was submitted to the IEEE OC Section and the IEEE Membership & Geographic Activities Board in June this year, to form this new Chapter. That petition received all approvals, with an effective date of formation of June 24, 2011.

This new CPMT Chapter will serve as a forum for all area engineers that are involved in the fields of Advanced

IC Packaging, Semiconductor Manufacturing Processes, Materials and Reliability, for professional networking and technical interactions. The members of this new Chapter met on July 7, 2011 for the first time, and elected the Executive Committee of the Chapter for 2011.

Monthly technical meetings are being planned to start in September, this year. These technical meetings will be open to ALL – both members and non-members of the IEEE. To receive notifications on these meetings and all other IEEE CPMT OC Chapter announcements, please join the LinkedIn Group “IEEE CPMT OC Chapter” at http://www.linkedin.com/groups?home=&gid=3996387&trk=anet_u_ghm or contact any of the Chapter officers listed below.

No.	Position	Name	E-mail Address
1	Chairman	Sam Karikalan	samkarikalan@ieee.org
2	Vice-Chairman	Don Frye	don3569@yahoo.com
3	Secretary	Jianjun Li	Jianjun@ieee.org
4	Treasurer	Tim Chaudhry	timchaudhry@gmail.com
5	Technical Program Chair	Wayne Koh	kohmail@gmail.com
6	Technical Program Co-Chair	Mehdi Saeidi	saeidi@ieee.org
7	Workshop / Conference Chair	Larry Williams	larry.williams@ansys.com
8	Tutorial / Training Chair	Fan Yeung	fyeung821@yahoo.com
9	Membership Development Chair	Michael Alderete	alderetm@gmail.com
10	Publicity Chair	Jianfeng Xu	xjfxujianfeng@gmail.com

The Executive Committee of this new IEEE Chapter in Orange County requests all current IEEE members in the OC Section to join the “IEEE CPMT OC Chapter” LinkedIn Group, to remain informed of and support its technical activities.

About the IEEE

The Institute of Electrical & Electronics Engineers [IEEE] is the leading organization for the advancement of technology. The IEEE is a 501(c)(3) non-profit, technical professional association of more than 390,000 individual members in over 175 countries. The IEEE Orange County Section serves over 3,700 members in Orange County in addition to the local community.

IEEE Orange County Section
P.O.Box 15264, Irvine, CA 92623-5264

Member Discounts

As you well know, IEEE members can take advantage of a myriad of discount opportunities, either in the form of core IEEE products OR from IEEE sponsored programs which are offered at reduced rates as a benefit of membership. However, member surveys indicate that awareness of IEEE discount programs is low, such that 50% of members do not know about them or where to find them.

To address this issue, a decision was made to present information about all these programs in a new centralized location, which is now the "IEEE Member Discounts" Web page. This notice also serves to announce that the brand "Financial Advantage Program" has been retired.

Please take a look at the new IEEE Member Discounts page: <http://www.ieee.org/go/discounts>.

The "IEEE product discounts" section is listed first and we are still working on compiling all the entries to appear here. The "IEEE sponsored discounts" section lists programs in the following categories: Insurance, Travel, Technology and Home/Office Discounts. Programs that are available globally are clearly marked in this listing. We have also added an FAQ page that seeks to clarify the geographic availability of the sponsored programs and how they are developed and vetted.



Welcome New IEEE members in Orange County!

We'd like to extend a warm welcome to the following new members:

Member	Grade	Member	Grade
Kunal K Mawade	Graduate Student Member	Ignacio Moreno Jr	Member
Joel Ossher	Graduate Student Member	Pradeep Nagesh	Member
AI PHUNG	Graduate Student Member	Steve T Nguyen	Member
Hitesh Sajnani	Graduate Student Member	Janine Servino Nielsen	Member
Qing Tan	Graduate Student Member	Adrian Orampo	Member
REYAN TANES	Graduate Student Member	Michael Edward Shapiro	Member
Long Vu	Graduate Student Member	Kevin Thai	Member
Ali Fouad Abdulhussein	Member	VICTORIA TSAI	Member
Helen Alexander	Member	Denny K. Yuen	Member
Roger Neil Behle	Member	Rodney Wayne Bowden	Student Member
Michael V. Daly	Member	Nicholas DiGiuseppe	Student Member
Mohana Sundaram Devarajan	Member	Tuyen Hoang	Student Member
Aaron Patrick Edwards	Member	Ganghee Jang	Student Member
Fernando Andres Garcia	Member	Geza Kovacs	Student Member
MICHAEL GENIN	Member	Ameen Manghi	Student Member
Dave Graf	Member	Brian Matthiesen	Student Member
Lina Guo	Member	Andros Nguyen	Student Member
George Robert Hughes	Member	Michael Phu Pham	Student Member
Sujay Irudayaraj	Member	Clay Alexander Purselley	Student Member
James Arthur Jones	Member	Steven Daniel Ramirez	Student Member
Jaydutt J Joshi	Member	Meron Reda	Student Member
Mohsin Khan	Member	Michael Thomas Anthony Richter	Student Member
Frank E Kling	Member	Aron Andrew Roberts	Student Member
Alan Kuccheck	Member	Elizabeth Sandoval	Student Member
Melissa Lau	Member	John Tirona	Student Member
Hyung Ki Lee	Member	David Tran	Student Member
Alexis Karlo Bayoneta Maglonso	Member	Kevin Vuong	Student Member
Vladimir Matveyenko	Member	Eric Wang	Student Member
Eric Mirowitz	Member	YI WANG	Student Member

GHTC: Technology for the Benefit of Humanity

IEEE Global Humanitarian Technology Conference



**October 30 - November 1, 2011
Seattle, Washington, USA
www.ieeeghtc.org**

Sponsored by the Institute of Electrical and Electronics Engineers, and the IEEE Foundation

Advertising Section in the Newsletter

Our Newsletter now includes an advertising section. For details on how to place your ad please send us e-mail at: info.at.nanomems-research.com

Hector J. De Los Santos
IEEE Orange County Section
Newsletter Editor

New IEEE Orange County, California, MTT-S/EDS-S Joint Chapter Group in LinkedIn

You are invited to join the IEEE OC MTT-S/EDS-S open group in LinkedIn. This group brings together members of the IEEE Microwave Theory and Techniques, and Electron Devices Societies, residing in Orange County. Its purpose is to serve as a medium for sharing information about: Topics of interest and announcements for future Talks, networking, etc, including first-hand information on new job opportunities in the RF/Microwave, RFIC, Semiconductor Devices and related fields.

Hector J. De Los Santos, Ph.D.
Chairman, IEEE OC MTT-S/EDS-S Joint Chapter

To IEEE Orange County Chapters:

Newsletter Inputs

As we begin a new year of activities, it is fitting to remind OC Chapters of the protocol to get their news items published in the Newsletter. Simply, e-mail your news item to info.at.nanomems-research.com no later than the 15th of the month, prior to the month whose Newsletter you are targeting. For example, if you want the February'09 Newsletter to contain your news item, please, submit it no later than January 15th, 2009. In your e-mail, please, enclose your news item between two lines of "+" characters, i.e.:

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News Item Title

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Thank you,
Hector J. De Los Santos
IEEE Orange County Section, Newsletter Editor

Job Openings in OC

PWB Designer

Job Summary:

Company: Nokia

Location: San Diego, CA

Industries: Wireless, Telecommunications

Job Type: Full Time

Years of Experience: 5 years of applicable PWB design experience

Overall Responsibility:

- Design complex printed circuit boards for mobile phones integrating the design of the RF, baseband and mechanical groups.
- Able to work with concepting team to provide innovative solutions to meet difficult requirements/timelines
- Ability to design sound solutions and clearly defend/communicate solutions to engineering teams
- Ability to execute program from concepting to released product, managing all aspects of PWB processes
- Will be involved in and has input to project planning
- Able to make decisions on which PWB vendors to use, and to maintain vendor relationships

Requirements:

- Thorough theoretical and advanced practical knowledge and skills within PWB design.
- Knowledge of PWB manufacturing processes.
- At least one year of Zuken Experience
- Minimum of 5 years of applicable PWB design experience
- Similar skills and capabilities with flexible printed circuits as with PWBs.
- Experience with SMD components and blind and buried vias
- Experience with RF design
- Experience with signal integrity tools
- CAD Drafting skills

To Apply, Please visit: <http://www.nokia.com/careers>

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 If you or your company has a job to advertise, please send an email to shireesh@ieee.org with a concise description of the job and contact information. Depending on space availability, we will attempt to post the job opening in the IEEE Section newsletter and website.
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Senior Electrical Engineer

Job Summary:

Company: Nokia

Location: San Diego, CA

Industries: Wireless, Telecommunications

Job Type: Full Time

Years of Experience: 5+ years of mobile handset development experience, Qualcomm RF solutions knowledge required

Overall Responsibility:

- Work as Senior RF Engineer on a GSM/WCDMA/HSPA/LTE projects.
- Responsible for project planning, organization, risk management, decision making, and milestone approvals for all RF related tasks.
- Provide project and technical direction as well as mentoring support for other RF engineers.
- Have an excellent understanding of GSM/WCDMA/HSPA/LTE technology.
- Have a good knowledge of R&S CMU-200 Call box.
- Need to have a solid understanding of transceiver system and be able to guide and teach others.
- Responsible for RF receiver and transmitter circuit knowledge, design, debug and implementation.
- Qualify RF circuit performance and provide data and feedback to program and engine manager.
- Support product prototype builds either from San Diego or in the factory. This includes, troubleshooting RF build failures, improving manufacturing yields, providing RF training for factory technicians and reporting RF status and issues to program and RF team.

Requirements:

- Thorough theoretical and advanced practical knowledge and skills within PWB design.
- Knowledge of PWB manufacturing processes.
- At least one year of Zuken Experience.
- Minimum of 5 years of applicable PWB design experience.
- Similar skills and capabilities with flexible printed circuits as with PWBs.
- Experience with SMD components and blind and buried vias.
- Experience with RF design.
- Experience with signal integrity tools.
- CAD Drafting skills

To Apply, Please visit: <http://www.nokia.com/careers>



Electric Vehicles (EV's) and Power Grids; AC Propulsion's V2G (Vehicle to Grid) Experience

[IEEE PES L.A. Metro \(LAC\) Chapter, Sept. 6, 2011 Meeting](#)

Overview: AC Propulsion designed and built an EV (AC Propulsion eBox) that has successfully performed Frequency Regulation service in the PJM power market. AC Propulsion and their partners connected an eBox EV to a power control system (PJM's AGC) for grid dispatch & operation. This is an early successful collaboration across the transportation and power industries. This is also a tangible glimpse into a future Smart Grid enabled world of distributed resources, including plug-in vehicles, participating as operating assets on power systems. Take advantage of this unique chance to hear firsthand experience from a national leader in electrified transportation, and interfacing these assets to power systems

Speaker: Thomas B. Gage, CEO, AC Propulsion (San Dimas, CA)
Mr. Gage joined AC Propulsion in 1996, directing strategy and market planning, business development, and communications. He also manages production of prototype vehicles for automotive customers. He has conducted research projects on topics such as the future of the automobile and automotive transportation, electric vehicle commercialization, intelligent transportation systems, and neighborhood vehicles. He holds a B.S. degree in Mechanical Engineering from Stanford University, and an M.B.A. from Carnegie Mellon University. He drives an electric car.

When: September 6, 2011

11:15pm Social and Registration
11:30am Lunch (Luminarias Famous Buffet)
11:50pm IEEE P2030 Stds Intro
12:00pm Introduction of Speaker
12:05pm Presentation
1:00pm Adjourn

Where: Luminarias Restaurant

3500 Ramona Blvd. Monterey Park, CA

(323) 268-4177

On the Monterey Park Golf Course Grounds



Details: Make your advance reservation by 2pm on August 31, 2011; IEEE Members \$20.00, Non-IEEE Members \$30.00, All Students \$15.00. Payment by check or cash only. No Charge Cards will be taken at the door. After lunch, attendance for the presentation is free.

Make your reservation by sending an email to: Henry.Khoo@sce.com

Questions? Call Charlie Vartanian (626) 818-5230

**IEEE Orange County Communications Society and Signal Processing Society (ComSig) Chapter,
OC Engineering in Medicine and Biology Society,
And
OC Computer Society
Invites You To The Following Event:**

Biologically-inspired and Nano-scale Communication and Networking

Sponsored by the Comsoc Distinguished Lecturer Program

Speaker: Prof. Falko Dressler, University of Innsbruck, Austria

Date: Monday, Sept. 12, 2011

Time: Social Hour: 6:00 p.m.
Dinner: 6:30 p.m.
Presentation: 7:00 p.m.

Location: The Doubletree Club Orange County Airport
7 Hutton Centre Drive,
Santa Ana, CA, 92707-5794
714-751-2400

Dinner Menu:

Salad
Non-veg or vegetarian entree
Dessert

Please RSVP at: <http://oc-comsig.eventbrite.com/>

Abstract:

The developments in communication technologies have yielded many existing and envisioned information network architectures such as cognitive radio networks, sensor and actor networks, quantum communication networks, terrestrial next generation Internet, and InterPlaNetary Internet. However, there exist many common significant challenges to be addressed for the practical realization of these current and envisioned networking paradigms such as the increased complexity with large scale networks, their dynamic nature, resource constraints, heterogeneous architectures, absence or impracticality of centralized control and infrastructure, need for survivability, and unattended resolution of potential failures. These challenges have been successfully dealt with by Nature, which, as a result of millions of years of evolution, have yielded many biological systems and processes with intrinsic appealing characteristics such as adaptivity to varying environmental conditions, inherent resiliency to failures and damages, successful and collaborative operation on the basis of a limited set of rules and with global intelligence which is larger than superposition of individuals, self-

organization, survivability, and evolvability. Inspired by these characteristics, many researchers are currently engaged in developing innovative design paradigms to address the networking challenges of existing and envisioned information systems. In this lecture, the current state-of-the-art in bio-inspired networking is captured. The existing bio-inspired networking and communication protocols and algorithms devised by looking at biology as a source of inspiration, and by mimicking the laws and dynamics governing these systems is presented along with open research issues for the bio-inspired networking. Furthermore, the domain of bio-inspired networking is linked to the forthcoming research domain of nanonetworks, which bring a set of unique challenges. The objective of this tutorial is to provide better understanding of the potentials for bio-inspired and nano-scale networking, and to motivate research community to further explore this timely and exciting field.

Biography:

Falko Dressler is a Full Professor of Computer Science heading the Computer and Communication Systems Group at the Institute of Computer Science, University of Innsbruck. He teaches on self-organizing sensor and actor networks, network security, and communication systems. Dr. Dressler received his M.Sc. and Ph.D. degree from the Dept. of Computer Science, University of Erlangen in 1998 and 2003, respectively. In 2003, he joined the Computer Networks and Internet group at the Wilhelm-Schickard-Institute for Computer Science, University of Tuebingen. Between 2004 and 2011, he has been an Assistant Professor with the Computer Networks and Communication Systems chair at the Department of Computer Science, University of Erlangen, coordinating the Autonomic Networking group. Dr. Dressler is an Editor for journals such as Elsevier Ad Hoc Networks, ACM/Springer Wireless Networks (WINET), and Elsevier Nano Communication Networks. He was guest editor of special issues on self-organization, autonomic networking, and bio-

Biologically-inspired and Nano-scale Communication and Networking, con't...

inspired computing and communication for IEEE Journal on Selected Areas in Communications (JSAC), Elsevier Ad Hoc Networks, and others. Besides chairing a number of conferences, he regularly acts in the TPC of leading networking conferences such as IEEE INFOCOM, IEEE ICC, IEEE Globecom, IEEE WCNC, and IEEE MASS. Among others, Dr. Dressler wrote the textbooks *Self-Organization in Sensor and Actor Networks*, published by Wiley in 2007. Dr. Dressler is an IEEE Distinguished Lecturer in the fields of inter-vehicular communication, self-organization, and bio-inspired networking. Dr. Dressler is a Senior Member of the IEEE (COMSOC, CS, VTS) as well as a Senior Member of ACM (SIGMOBILE), and member of GI (KuVS). He is actively participating in the IETF standardization. His research activities are focused on adaptive wireless networking and self-organization methods addressing issues in wireless ad hoc and sensor networks, inter-vehicular communication systems, bio-inspired networking, and adaptive network security techniques.

For more information on current and future events, please visit Orange County ComSig chapter website at:
<http://chapters.comsoc.org/comsig/>

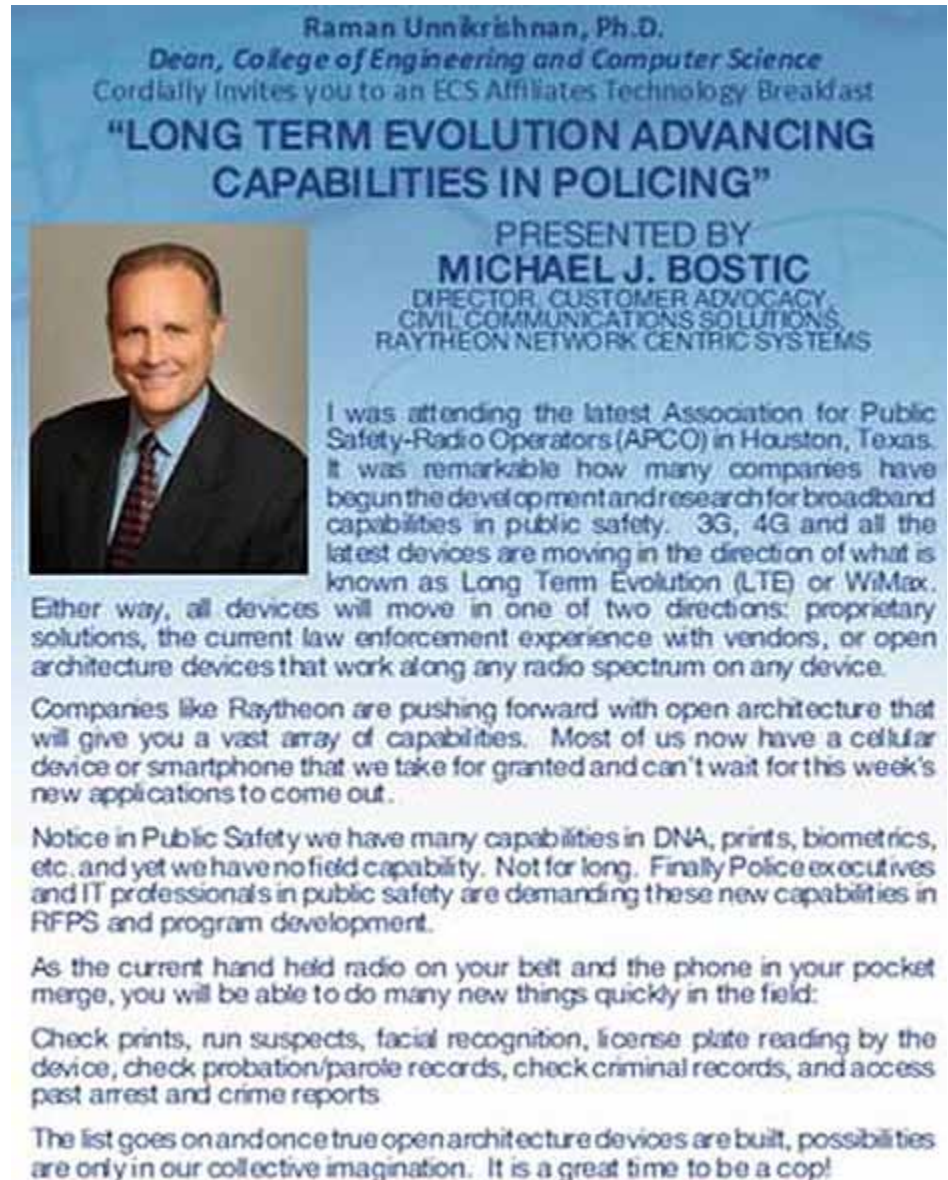
Officer contact information:
<http://chapters.comsoc.org/comsig/officers.html>

ECS Technology Breakfast presentation

Please join us on Thursday, September 22nd for an exciting ECS Technology Breakfast presentation:

Long Term Evolution Advancing Capabilities in Policing by Michael J. Bostic, Director, Customer Advocacy, Civil Communications Solutions, Raytheon Network Centric Solutions.


Thursday, September 22, 2011 at 7:30AM, Holiday Inn Hotel & Suites, 2932 E. Nutwood Ave, Fullerton, CA 92831



Raman Unnikrishnan, Ph.D.
 Dean, College of Engineering and Computer Science
 Cordially Invites you to an ECS Affiliates Technology Breakfast

"LONG TERM EVOLUTION ADVANCING CAPABILITIES IN POLICING"

PRESENTED BY
MICHAEL J. BOSTIC
 DIRECTOR, CUSTOMER ADVOCACY,
 CIVIL COMMUNICATIONS SOLUTIONS,
 RAYTHEON NETWORK CENTRIC SYSTEMS



I was attending the latest Association for Public Safety-Radio Operators (APCO) in Houston, Texas. It was remarkable how many companies have begun the development and research for broadband capabilities in public safety. 3G, 4G and all the latest devices are moving in the direction of what is known as Long Term Evolution (LTE) or WiMax. Either way, all devices will move in one of two directions: proprietary solutions, the current law enforcement experience with vendors, or open architecture devices that work along any radio spectrum on any device.

Companies like Raytheon are pushing forward with open architecture that will give you a vast array of capabilities. Most of us now have a cellular device or smartphone that we take for granted and can't wait for this week's new applications to come out.

Notice in Public Safety we have many capabilities in DNA, prints, biometrics, etc. and yet we have no field capability. Not for long. Finally Police executives and IT professionals in public safety are demanding these new capabilities in RFPS and program development.

As the current hand held radio on your belt and the phone in your pocket merge, you will be able to do many new things quickly in the field:

Check prints, run suspects, facial recognition, license plate reading by the device, check probation/parole records, check criminal records, and access past arrest and crime reports

The list goes on and once true open architecture devices are built, possibilities are only in our collective imagination. It is a great time to be a cop!

RSVP at <http://calendar.ecs.fullerton.edu/EventList.aspx>. Tickets are free for Affiliates members and \$10 for non-members. Student admission sponsored by Disneyland Resorts. Seating is limited, RSVP by September 15, 2011 to secure a reservation.

IEEE Components, Packaging and Manufacturing Technology Society Orange County Chapter

Tuesday, September 20, 2011 Technical Meeting

Silver Flip-chip Interconnect Technology

Prof. Chin C. Lee

Dept. of Electrical Engineering and Computer Science, Materials and Manufacturing Technology
University of California, Irvine, CA 92697-2660

E-mail: clee@uci.edu

Abstract

This talk will review the soldering process, with flux and without flux, followed by solid-state bonding and flip-chip interconnects using pure silver (Ag) columns or joints. In nearly every soldering process in electronic industry, flux, acidic rosin, is used to remove oxides in order to achieve good bonding. Fluxless bonding process, that does not need flux, is made possible by proper design of bonding media and environment. The Ag-In system will be presented to demonstrate the fluxless principle. In contrast with such soldering process, solid state bonding does not involve any molten phase. Ag is chosen for this study because it has the highest electrical conductivity and thermal conductivity among all metals. It is shown that Ag can be bonded directly to copper (Cu) at 250°C. It can also be bonded to gold. Using Ag as bonding medium, Si chips coated with thin Cr/Au have been bonded to Cu substrates. The resulting structure looks like Si/Cr/Au/Ag/Cu.

At present, nearly all large Si chips are packaged in flip-chip configuration, with solder bumps connecting the active surface of the chip to the packaging substrate. These bumps are made of Tin(Sn)-rich solder. When the bump diameter shrinks down to 50µm, many problems, such as intermetallic growth, bump bridging, resistance, etc., may arise. These are caused by fundamental limitations and cannot be overcome by process modifications. So, we turned to pure Ag and have demonstrated 15µm Ag interconnect columns between Si chips and Cu with a pitch of 40µm. This presentation will discuss ten potential advantages of the Ag flip-chip technology, when compared to the popular solder-based flip-chip interconnects, in detail.

Biography



Prof. Chin C. Lee received his B.E. and M.S. degrees in Electronics from National Chiao-Tung University, Taiwan, and Ph.D. degree in Electrical engineering from Carnegie-Mellon University. He is a professor of Electrical engineering and Computer science at the University of California, Irvine, where he also serves as the Director of Materials and Manufacturing Technology graduate program. His research interests include semiconductor and microwave devices, electronic packaging, thermal design, bonding technology, electromagnetic theory, acoustic waves, acoustic microscopy, integrated optics, and optoelectronics. He has co-authored 4 book chapters and more than 200 research papers. Prof. Lee is a Fellow of the IEEE, a Fellow of the Photonics Society of Chinese-Americans, and a member of Tau Beta Pi. He has served as an associate editor of IEEE Trans. on Components and Packaging Technologies for 20 years. Since 1998, he has been on the Program Committee of IEEE Electronic Components and Technology Conference (ECTC) and is the Chair of Materials and Processing sub-committee. He also serves as the Vice Chair of IEEE-CPMT Technical Committee 5 - Material and Processing. He received the Best Paper Award for "Diagnosis of hybrid microelectronics using transmission acoustic microscopy" in 1979 IEEE Reliability Physics Symposium, and the 2007 IEEE-CPMT Exceptional Technical Achievement Award.

Date: **Tuesday, September 20th, 2011**

Location: **Broadcom Corporation, 5300 California Ave., Irvine, CA 92617 – Bldg. 2 Conf. Room 2-1032 (Crystal Cove)**
Check in at the Security Gate and proceed to Bldg. 2. You will be escorted into the building.

Time: **5:30-6:00pm: Social time, 6:00-7:00pm: Presentation, 7:00pm: Dinner** (Pizza and Soda provided by CPMT OC Chapter)

RSVP: **IEEE members and non-members all are welcome** to attend. Please RSVP to Mehdi Saeidi at saeidi@ieee.org by Sep, 20. Please be at Bldg. 2 entrance by 6:00 pm; no escorts after that.

For more information please call any of the following officers of the IEEE CPMT OC Chapter:

Wei Koh (714) 417-9979

Mehdi Saeidi (949) 296-5618

Sam Karikalan (949) 413-0029

Follow us on [LinkedIn](#).

Don Frye (310) 487-0148

IEEE Arc Flash Seminar

A Safety Overview of the Dangers, Requirements & Solutions

The Los Angeles Chapter of the Industry Applications Society (IAS) is sponsoring a half-day seminar **Saturday, September 24, 2011 from 8 AM to 12 PM:**

- Do you know what dangers are posed by an arc flash incident and how to calculate the energy level?
- Are you aware of the requirements of OSHA, NFPA and the NEC with regard to arc flash labeling, personnel protection and training?
- Do you know what solutions are available to reduce the possibility of an arc flash incident, mitigate the arc flash energy or contain the incident energy within the affected equipment?
- Can you model the arc flash energy mitigation methods in a report to your client so they can determine if a particular method is sufficient for their needs and worth the cost?
- Can you advise your client regarding the most effective arc flash mitigation techniques and personal protective equipment and clothing for their application?

Come to the seminar on Arc Flash - Dangers, Requirements and Solutions and get these and other questions answered. The seminar will be presented by Bob Burnell (GE), John Francis (ETAP) and Lowell Oriel (SKM).

Seminar Location: **County of Los Angeles, Department of Public Works**

900 S. Fremont Avenue, Alhambra, CA 91803
Conference Rooms A & B



- Facility is approx. 5 miles east of Downtown LA, northeast of the Cal-State LA Campus
- Exit 10 Freeway, Fremont exit
- Visitor parking in the front of the building
- Each visitor is required to sign-in and get a visitors pass from the security desk
- Conference Rooms are in the courtyard

Seminar Cost: **Advanced registration (by Sept. 17th):** at the door:

IEEE members:	\$50.00	\$65.00
Non-members:	\$65.00	\$80.00

Make check payable to: Los Angeles IEEE IAS

To register, contact: Annette Malekandrasians (626) 294-3644

annette.malekandrasians@worleyparsons.com

or Keith Johnson (909) 869-8245

KeithJohnson@eaton.com

Please plan to arrive before 8:00am for registration

- Coffee, Hot Tea, Juice and pastries will be provided
- A certificate demonstrating 4 hours of professional education will be provided

ISA "Members Only" Tour of NASA's Jet Propulsion Laboratory



Sponsorship also available

ISA Los Angeles is hosting a great "members only" tour of NASA's Jet Propulsion Laboratory in Pasadena, which Caltech manages for NASA. JPL is world-renowned for its robotic exploration of space.

The tour is being tailored to ISA interests in instrumentation and control systems. JPL has strict rules for tours and all names must be submitted by Sept 7. Please see the JPL Rules below...

About JPL and the Tour. More than half a century ago, JPL designed and built Explorer 1, the first American satellite and the first spacecraft ever to return scientific data from space. Since then, JPL has sent robotic spacecraft to explore the far reaches of the solar system, and used powerful telescopes in space to observe distant stars, galaxies and other celestial objects.

Current missions include the rovers on Mars, the twin Voyager spacecraft approaching the edge of our solar system, the Dawn spacecraft, which recently entered orbit around the giant asteroid Vesta, and the Juno spacecraft, launched August 5 and en route to Jupiter.

JPL tours often include a brief historical movie, a stop in Mission Control, where engineers "talk to" numerous NASA spacecraft via NASA's Deep Space Network of antennas, as well as the Spacecraft Assembly Facility--a large clean room where spacecraft are built--and the Von Karman Visitors' Center, with numerous spacecraft models and exhibits. JPL's workforce includes about 5,000 engineers, scientists and other employees, and features internship programs.

This tour is expected to be booked early. Due to the expected popularity, it is an "ISA members only" tour. Non-members may make a reservation, but must join ISA and have their member number prior to the date of the tour. All guests of members must also be members.

There will be a second tour scheduled later in the year directed primarily for students.

IMPORTANT: If you are not an ISA member, please inquire when you RSVP, or contact Ed Bailey at ebailey@isala.org. All non-members and those who have let their memberships expire -- including guests -- are required to join ISA by Sept 28.

The Following Special Requirements are from JPL:

IMPORTANT – LAST DAY TO RSVP IS SEPTEMBER 7.

This is per JPL Rules and No Exceptions Will Be Permitted

Also, JPL has provided the following rules that everyone on the tour must follow:

- All US citizens 18 years of age and older visiting JPL MUST present official, government-issued photo identification, such as a driver's license or passport, before being allowed entry.
- Anyone not on the approved RSVP roster will not be allowed on to the facility. *Note: Substituting roster names the day of the tour is not allowed*
- All non-US citizens (Foreign Nationals) 18 years of age or older MUST present either a passport or resident visa (green card) before being allowed entry. Individuals without the appropriate identification will NOT be admitted to the facility.
- The tour includes considerable walking and stair climbing. Dress comfortably and appropriately for the weather. Wheelchairs can be accommodated with prior notice. Cameras are allowed on the tour.

Meeting Details

Tour Date: Wed, Sept 28, 2011

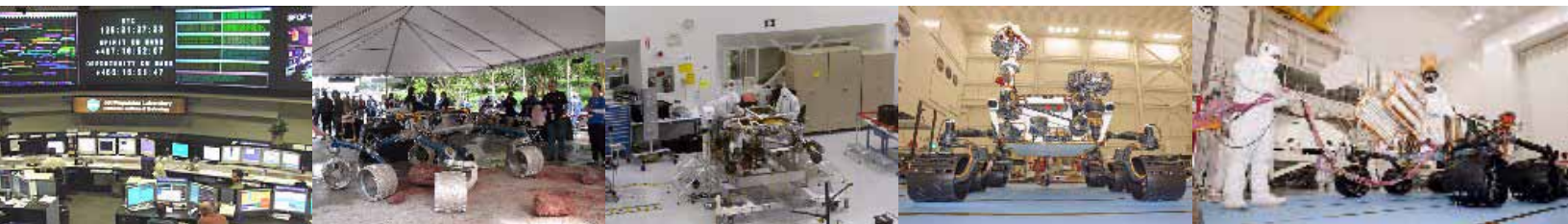
Deadline to RSVP: Sept 7

RSVP & Info: JPL-private-tour@isala.org

Arrival Time: 1:00 PM

Departure Time: 3:30 PM

Location: Directions, parking map and meeting instructions will be given when you RSVP.





2011 IEEE Symposium on Product Compliance Engineering

Sponsored by the IEEE Product Safety Engineering Society

October 10 - October 12, 2011
San Diego, California, USA
www.psessymposium.org

Call for Papers, Workshops, and Tutorials

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The IEEE Product Safety Engineering Society seeks original, unpublished papers and tutorials on all aspects of product safety and compliance engineering including, but not limited to:

- Product Specific:** Consumer, medical, computer (IT), test and measurement, power supplies, telecommunication, industrial control, electric tools, home appliances, cellular and wireless, etc.
- Hazard Specific:** Electrical, mechanical, fire, thermal, chemical, optical, software, functional, reliability, risk assessment, etc.
- EMC / RF:** Electromagnetic emissions, electromagnetic immunity, regulatory, Introduction to EMC/RF for the safety engineer and compliance engineer.
- Components:** Grounding, insulation, opto-couplers, cables, capacitors, connectors, current-limiters, transformers, current-limiters, fuses, lasers, ferrites, environmental, electromagnetic suppression & protection, surge protectors, printed wiring boards, etc.
- Certification:** Electromagnetic emissions & immunity, Environmental, Product safety, Processes, safety testing, regulatory, product liability etc.
- Standards Activities:** Development, status, interpretations, country specific requirements, Laboratory Accreditation, etc.
- Research:** Body physiological responses to various hazardous energy sources, unique safeguard schemes, electrically-caused fire, forensic methods etc.
- Environmental:** RoHS, WEEE, EuP (Energy-using Products), Energy Star, Packaging Directives, REACH (Chemical), CeC, etc.
- Demonstration Papers:** Demonstrations of product safety testing techniques including mechanical, electrical, fire, etc.

Author's Schedule **All dates require that the associated documents be loaded into EDAS by the due date**

Abstract submission	May 15, 2011
Notification of Abstract Acceptance	June 1, 2011
Draft formal paper / presentation	July 15, 2011
Formal Final Paper	August 15, 2011
All Final Papers and Presentations	September 1, 2011

Prospective authors should submit e-papers using the on-line EDAS submission system.

Please go to the Author's Kit page of the PSES web for comprehensive submission instructions including paper templates on the author tab at: www.psessymposium.org





International Games Innovation Conference November 2-4, 2011

Venue

Chapman University
Orange, California USA
(Near Disneyland
and Newport Beach)

Submission Deadlines

**Power Point
Presentations and
Proposals for
Special Sessions Due:
September 1, 2011**

Two-page
Extended Abstract
Submission:
On-going

Acceptance Notice:
September 10, 2011

Final Paper
& Presentation for
Conference Proceedings:
September 20, 2011

**For Submission
Instructions:**

<http://ice-gic.ieee-cesoc.org>

**Contact: TPC Chair
Gary Yip**
gyip.igic2011@gmail.com



Call for Presentations

The IEEE Consumer Electronics Society is pleased to announce the Third International Games Innovation Conference. This conference is a platform for disseminating peer-reviewed papers and presentations that describe innovative research and development of game technologies. Participation from industry, academia, and government is welcome.

As the Call for Papers reaches its first milestone, we are inviting submissions of presentations in power point format (~ 15 slides with abstract of ~ 200 words on 1st slide) to foster industry and government participation that describe significant, original, and on-going work. Submissions are still welcome in the previously announced format of 2-page extended abstracts that include diagrams of ideas and early results from preliminary research and development. All presentation submissions will be reviewed on the basis of their relevance, technical soundness, novelty, clarity, and overall scientific or engineering contribution. At least one presenter must attend the conference in person to be included in the Conference Program and Proceedings, IEEE Xplore and Engineering Index. Presentations reporting innovations and new developments in all areas related to games are invited, including but not limited to the following:

Multi-player Games	Platforms	Development and Production	Interfaces
Cloud based games	Mobile/handheld	Design of games	Interoperability
Networked games	Computers	Tools	Wearable devices
Location awareness	Consoles	Interdependence of Software & Hardware	Biometrics
Infrastructure	Portable consoles	Graphics	3D effects
Performance	Cloud servers	Animation	Haptics
Latency	Network servers	Content generation	Gaze
Architecture	System architecture	Artificial intelligence	Proximity
Security	Network architecture	Cinematography	Audio
			Gesture
Beyond Entertainment	User Experience	Technology	
Health/exercise	Playing experience	Multi-core processors	3D Graphics
Education/Training	Behavioral impact	Memory	3D Display
Business	Social impact	Mobile SoC	Augmented reality
Advertising	Player modeling	Virtual reality	Game mechanics
Social Change	Learning	Storage	Vision/imaging
Usability beyond games	Cultural impact	MEMS/Nano devices	Wireless/RF
	Lessons from games		

Industry Track: This conference provides an opportunity to submit power-point presentations describing design and technology challenges that should be addressed in the short-to-medium term. These presentations are encouraged for sharing of development experience, with less focus on full-paper publication.

Special Panels, Workshops and Tutorials: IGIC 2011 is planning interactive sessions (120 minutes each) in the forms of panel discussions, workshops and tutorials focusing on the latest development in game technology, including hardware, software, content development and demonstrations. Topics of discussions on future issues, especially related to innovation in game technology, are welcome.



International Games Innovation Conference November 2-4, 2011

Chapman University – City of Orange, California 92866 USA (Near Disneyland and Newport Beach)

Keynote Speakers

Conference Opening



Trip Hawkins
*Founder, Electronic Arts,
3DO and Digital Chocolate*

Reception Banquet



Robert J. Mical
SONY

Award Luncheon



Craig Hampel
Rambus

Conference Closing



Ohad Shvueli
PrimeSense

Committed Panel: Playing with Reality, Alternate Reality Games, Urban and Serious Play



Leader:
Patrícia Gouveia
Universidade Lusófona
de Humanidades
e Tecnologias

Darren O'Donnell
The Tendency
Group
Toronto, Canada

Jeff Watson
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Southern CA
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Berlin, Germany

Flavio Escribano
ARSGAMES
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Spain

For more information, go to <http://ice-gic.ieee-cesoc.org>, or
contact conference coordinator, Charlotte Kobert ckobert@ieee.org





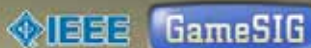
International Games Innovation Conference November 2-4, 2011

More Committed Talks:

Rambus

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UNIVERSITY**

dmv digitalmediawire





 **IEEE**

ORANGE COUNTY SECTION

Technically Co-Sponsored by

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computer
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Tutorial Speaker:

Adrain David Cheok

**National University of
Singapore & Keio University**

Tutorial Topic:

**Culture, Learning, Play in Our Radically
Connected Era**



Panel Leader:

Tom Coughlin

Coughlin Associates

Panel Topic:

No Storage – No Games:

The Role of Memory and Storage

Architectures in Game Design Performance



Panel Leader:

Jim Parker

University of Calgary

Panel Topic:

University Curriculum Development

Feeding the Games Industry



Advance Announcement



IEEE COMPONENTS, PACKAGING AND
MANUFACTURING TECHNOLOGY SOCIETY

The Institute of Electrical and Electronics Engineers, Inc.

Components, Packaging and Manufacturing Technology Society Orange County Chapter

Presents an All-Day Workshop on **3D Integrated Circuits: Technologies Enabling the Revolution**

Date & Time: **Friday, December 9, 2011 – 9:00am to 4:00pm**

Location: **Jazz Semiconductor Auditorium,**

[Conexant Systems, Inc. 4321 Jamboree Road, Newport Beach, CA 92660](http://www.conexant.com)

This one-day topical workshop will provide a comprehensive examination of the technologies, materials, manufacturing processes, equipment, advances in test methodology, and design tools that are enabling three-dimensional integrated circuits (3DICs). The remarkable progress in the electronics industry has been driven by technology advancements in semiconductors. Continued technology advancement driven by the relentless needs for lower cost, higher performance, lower power, and longer battery life in electronic devices has resulted in the requirement for 3D integration. Although there has been significant progress in development of 3D technologies it has not yet reached the high volume production mainstream. Join us for a unique one-day workshop that brings together experts from design, manufacturing, test, and materials to discuss the promise and technologies for 3D IC.

Featured Speakers

Dr. Phil Garrou

Microelectronic Consultants of North Carolina

Dr. Muhannad Bakir

Georgia Tech – Integrated 3D Systems Group

Ted Tessier

Chief Technical Officer, Flip Chip International

Dr. GS Kim

CEO & Founder, EPWorks, Seoul, Korea

Dr. Suresh Ramalingam

Sr. Director, Advanced Package Design & Development, Xilinx

Dr. Rose Guino, Dr. Betty Huang, Dr. Kevin Becker

Henkel Electronics Materials LLC.

Dr. Yeong Lee

Director, STATS ChipPAC

...and many others.

Vendor Exhibits and Sponsor Displays!

Gold Sponsors



Contacts for Inquiries:

Sponsorship: Dr. Lawrence Williams at l.williams@ieee.org

Vendor Exhibition: Mark Kuhlman at Mkuhlman@semtech.com

Registrations:

Early-Bird Registration Fees: IEEE Members - \$40; Non-Members of IEEE - \$50; Students - \$20

Prices will go up by \$20 for each category, after Nov 25, 2011.

Registration Instructions at http://meetings.vtools.ieee.org/meeting_view/list_meeting/8019

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